

COURSE DESCRIPTION

Department and Course Number	CS 334	Course Coordinator	Barnard
Course Title	Internetworking and Intranets	Total Credits	3

Current Catalog Description

Underlying network technology, including IEEE 802.11. Interconnecting networks using bridges and routers. IP addresses and datagram formats. Static and dynamic routing algorithms. Control messages. Subnet and supernet extensions. UDP and TCP. File transfer protocols. E-mail and the World Wide Web. Network address translation and firewalls. Mandatory weekly Linux-based lab.

Textbooks

Internetworking with TCP/IP, Vol. 1, 5th ed., by Douglas E. Comer, Prentice Hall, 2006, with locally-produced supplements.

Lab manual locally written and duplicated.

References

<http://standards.ieee.org/getieee802/download/802.11-1999.pdf>

Course Goals

Students gain thorough knowledge of TCP/IP internets, enhanced by “hands-on” experience in the lab.

Prerequisites by Topic

Discrete Structures with “C” or better

Major Topics Covered in the Course

Wired and wireless Networking, Internetworking, IP Addressing, ARP, IP datagram format, Forwarding Tables, ICMP, Layering, UDP, Client/Server, TFTP, TCP, FTP, subnetting, NAT, packet filtering, firewall, RIP, DNS, HTTP, supernetting, e-mail

Laboratory projects (specify number of weeks on each)

There are eight lab sessions, one per week, respectively covering ARP/PING, TFTP, FTP, routing, firewall, RIP, DNS, and HTTP.

Estimate CSAB Category Content

	CORE	ADVANCED		CORE	ADVANCED
Data Structures	_____	<u>10</u>	Computer Organization and Architecture	_____	<u>10</u>
Algorithms			Concepts of Programming Languages	_____	_____
Software Design	_____	<u>10</u>			

Oral and Written Communications

None

Social and Ethical Issues

None

Theoretical Content

10

Problem Analysis

10

Solution Design

10